

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: **Roberts, et al.**

For: **REGULATION OF CYTOTROPHOBLAST
CELL DIFFERENTIATION
AND CELL MIGRATION**

Serial No: **10/789,105**

Filed: **February 27, 2004**

Art Unit No: **1649**

Examiner: **Borgeest, Christina M.**

Attorney Docket No: **LP-02-019**

Mail Stop Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**PETITION TO ACCORD
35 U.S.C. § 371 FILING STATUS**

Dear Sir:

Applicants respectfully request that the above referenced application be accorded
35 U.S.C. § 371 filing status for the following reasons:

On February 27, 2004, the above referenced application was filed in the U.S. Patent &
Trademark Office. The requisite fees, PCT International Search Report and a Preliminary
Amendment were also submitted with the Application.

The Preliminary Amendment unequivocally provided:

This Application is filed pursuant to 35 U.S.C. § 371 as a United States National Phase application of International Application No. PCT/AU02/01226, filed August 30, 2002, which claims priority from Australia Application No. PR7331, filed August 30, 2001.

A copy of the February 27, 2004 Preliminary Amendment is attached in Appendix A.

The noted documents were transmitted to the PTO with Transmittal Form SB/05; the same form that has been used by our office for numerous national phase filings. In each of the noted filings, the application was accorded § 371 filing status without issue.

On or about June 2, 2004, our office received a Filing Receipt and Notice to File Missing Parts for the above referenced case. On or about February 2, 2005, our office also received an updated Filing Receipt. Neither the Filing Receipts, nor the Notice to File Missing Parts indicated that the Application was not accorded § 371 filing status.

On September 5, 2005, our office received the first substantive Office Action in this matter and first (and only) formal notice regarding the priority claim. In the noted Action, the Examiner states:

The preliminary amendments of 2/27/04 and 12/23/04 have been entered. Claims 1-17 are under examination. Applicant's attempt to claim 371 status is acknowledged, however, it is not proper for the following reasons: This is not a national stage application since there are conflicting instructions regarding the filing of this application. On the one hand, applicant filed an amendment to the specification on 27 February 2004 which indicated a national stage filing under 35 U.S.C § 371. However, applicant's transmittal letter filed 27 February 2004 indicates a filing of a nonprovisional application under 37 C.F.R. 1.53 (b). The last paragraph of MPEP 1893.03(a) indicates that an application will be treated as a filing under 5 U.S.C. 111(a) (regular nonprovisional application) if there are any conflicting instructions and even the use of Transmittal Form SB/05 (which this applicant used) will cause the application to be processed as a 111(a) application and not a 371 application.

Section 1893.03(a) of the MPEP provides that there are three key indicators which reflect that an application is filed under 35 U.S.C § 371. One of the key indicators are "Applicant's statement (or the equivalent) in the originally filed application papers that the application is a national stage filing under 35 U.S.C § 371."

As indicated above, the originally filed application papers clearly indicated that the application was (and is) a national stage filing under 35 U.S.C. § 371. Indeed, the Preliminary Amendment that was submitted with the application clearly provided that the application was (and is) a national stage filing under 35 U.S.C. § 371.

It is thus respectfully submitted that the mere use of Transmittal Form SB/05 should not be deemed a sufficiently conflicting instruction to warrant processing the application as a §111(a) application and not a § 371 application. Without question, had Applicants been apprised of the apparent confusion (via written notice or a call to Applicants' attorneys of record), the issue would have been promptly resolved.

For the above stated reasons, applicants accordingly respectfully request that the above referenced application be accorded national stage filing status under 35 U.S.C. § 371.

Respectfully submitted,

By: 

Ralph C. Francis
Registration No. 38,884

Dated: September 8, 2005
FRANCIS LAW GROUP
1942 Embarcadero
Oakland, CA 94606
(510) 533-1100

Appendix A



THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:)
)
ROBERTS, et al.)
)
FOR: **Regulation of Cytotrophoblast Cell**)
 Differentiation and Cell Migration)
)
SERIAL NO: **to be assigned**)
)
FILED: **to be assigned**)
)
ART UNIT NO: **to be assigned**)
)
EXAMINER: **to be assigned**)
)
Attorney Docket No: **LP-02-019**)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRELIMINARY AMENDMENT

Dear Sir:

The following amendments and remarks are provided before the initial examination of the above-identified patent application. Examination and consideration of the above application in light of the following amendments and remarks is respectfully requested.

Amendments to the Specification begin on page 2 of this paper.

Amendments to the Claims are reflected in the listing of claims, which begins on page 3 of this paper.

Remarks/Arguments begin on page 7 of this paper.

In the Specification:

On page 1 of the specification, after the Title, please insert the following paragraph:

This application is filed pursuant to 35 U.S.C. § 371 as a United States National Phase Application of International Application No. PCT/AU02/01226, filed August 30, 2002, which claims priority from Australia Application No. PR7331, filed August 30, 2001.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method of regulating cytotrophoblast differentiation and migration ~~characterized by, the method comprising~~ regulating the competition for binding to the cation independent mannose-6-phosphate (CIM6P) receptor between IGF-II and latent TGF- β by administration of ~~[[any of]]~~ a differentiation factor selected from the group consisting of IGF-II, an IGF-II analogues, or antibodies analogue and an antibody specific against latent TGF- β to thereby promote the interaction between said IGF-II and said CIM6P.
2. (Currently amended) A method of promoting the implantation of an embryo in the uterine decidual endometrium, ~~characterized by the method comprising~~ regulating the competition for binding to the cation independent mannose-6-phosphate (CIM6P) receptor between IGF-II and latent TGF- β by administration of ~~[[any of]]~~ a differentiation factor selected from the group consisting of IGF-II, an IGF-II analogues, or antibodies analogue and an antibody specific against latent TGF- β to thereby promote the interaction between said IGF-II and said CIM6P.
3. (Currently amended) ~~[[A]] The method according to of claim 2, characterized in that IGF-II, IGF-II analogues, or antibodies specific against latent TGF- β that promote the interaction between IGF-II and CIM6P are~~ wherein said differentiation factor is administered to an embryo produced by in vitro fertilization.
4. (Currently amended) ~~[[A]] The method according to of claim 2, characterized in that IGF-II, IGF-II analogues, or antibodies specific against latent TGF- β that promote the interaction between IGF-II and CIM6P~~ wherein said differentiation factor is administered to a pregnant female subject in need thereof.
5. (Currently amended) ~~[[A]] The method according to of claim 2, characterized in that IGF-II, IGF-II analogues, or antibodies specific against latent TGF- β that promote the interaction between IGF-II and CIM6P~~ wherein said differentiation factor is administered to a pregnant female subject in the first half of pregnancy.

6. (Currently amended) ~~[[A]]~~ The method according to of claim 2, characterized in that IGF-II, IGF-II analogues, or antibodies specific against latent TGF- β that promote the interaction between IGF-II and CIM6P are wherein said differentiation factor is administered whilst to an embryo while maintaining ~~[[the]]~~ said embryo in a relatively hypoxic environment.

7. (Currently amended) ~~[[A]]~~ The method according to claim 1 or of claim 2, ~~characterized in that the~~ wherein said embryo ~~[[is]]~~ comprises a mammalian embryo selected from the group consisting of a human, horse, cow, pig, goat ~~[[or]]~~ and sheep.

8. (Currently amended) A method of preventing the implantation of an embryo in the uterine decidual endometrium, ~~characterized by the method comprising~~ regulating the competition for binding to the cation independent mannose-6-phosphate (CIM6P) receptor between IGF-II and latent TGF- β by administration of a differentiation factor selected from the group consisting of latent TGF- β , or analogues or antibodies a TGF- β analogue and an antibody specific against IGF-II that inhibit the interaction between IGF-II and CIM6P.

9. (Currently amended) A method of regulating differentiation and migration of embryonic stem cells or adult stem cells, ~~characterized by the method comprising~~ regulating the competition for binding to the cation independent mannose-6-phosphate (CIM6P) receptor between IGF-II and latent TGF- β by administration of ~~[[any of]]~~ an differentiation factor selected from the group consisting of IGF-II, an IGF-II analogues, or antibodies analogue and an antibody specific against latent TGF- β that promote the interaction between IGF-II and CIM6P.

10. (Currently amended) A method of promoting terminal differentiation of embryonic stem cells or adult stem cells, ~~characterized by the method comprising~~ regulating the competition for binding to the cation independent mannose-6-phosphate (CIM6P) receptor between IGF-II and latent TGF- β and exposing said cells to reduced levels of IGF-II, ~~such that~~ whereby the stem cell CIM6P receptors are able to bind latent TGF- β and thereby promote the activation of TGF- β .

11. (Currently amended) A method of promoting stem cell division and stem cell migration ~~characterized by, the method comprising~~ regulating the competition for binding to the cation independent mannose-6-phosphate (CIM6P) receptor between IGF-II and latent TGF- β and exposing said cells to increased levels of IGF-II, ~~such that~~ whereby the stem cell CIM6P receptors are unable to bind latent TGF- β and thereby inhibiting the activation of TGF- β .

12. (Currently amended) A method of diagnosing a predisposition of cytotrophoblast cells or stem cells to differentiate and migrate, ~~characterized by the method comprising~~ determining in ~~[[the]]~~ a mother, father or an embryo the presence of a polymorphic form of a gene wherein the level of expression of ~~[[the]]~~ said gene serves to regulate the competition for binding to the cation independent mannose-6-phosphate (CIM6P) receptor between IGF-II and latent TGF- β and, ~~such that whereby~~ the CIM6P receptors have altered ability to bind latent TGF- β and thereby altered ability to activate TGF- β .

13. (Currently amended) ~~[[A]]~~ The method ~~according to of~~ claim 12, ~~characterized in that the~~ wherein said gene is selected from the group consisting of an insulin-like growth factor II gene, a urokinase plasminogen activator gene, a urokinase plasminogen activator receptor gene, a CIM6P (type-2 IGF) receptor gene, a TGF- β gene, a plasminogen gene ~~[[or]]~~ and any polymorphic forms thereof.

14. (Currently amended) A method of diagnosing a predisposition of cytotrophoblast cells to differentiate and migrate, ~~characterized by the method comprising~~ determining in ~~[[the]]~~ a mother, father or embryo the sequence of nucleotides in the DNA near the insulin-like growth factor II gene ~~known as the insulin (INS) variable number of tandem repeats (VNTR)~~, to thereby determine the capacity of the cytotrophoblast to migrate into the uterine decidua and the capacity of the placenta to transport substrates to the embryo, said insulin-like growth factor II gene comprising the insulin (INS) variable number of tandem repeats (VNTR).

15. (Currently amended) A method of determining the ability of cytotrophoblast cells to differentiate and migrate, ~~characterized by measurement of the method comprising measuring~~ the amount of messenger RNA transcribed from the insulin-like growth factor II gene in ~~embryos~~ an embryo.

16. (Currently amended) A method of determining the ability of cytotrophoblast cells to differentiate and migrate, ~~characterized by measurement of the method comprising measuring~~ the amount of insulin-like growth factor II protein secreted by a mammalian ~~embryos~~ embryo.

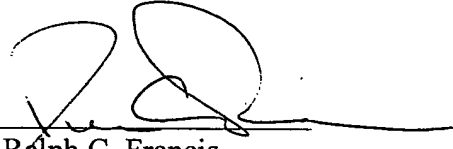
17. (Currently amended) A method of determining the ability of cytotrophoblast cells to differentiate and migrate, ~~characterized by measurement of the method comprising measuring~~ the amount of insulin-like growth factor II protein circulating in maternal and paternal blood.

REMARKS

The foregoing amendments are made in order to place the Application in better condition for examination and to better define the invention. As no new matter is presented with these amendments, it is believed that such amendments may be entered and such action is respectfully requested.

Respectfully submitted,
FRANCIS LAW GROUP

By

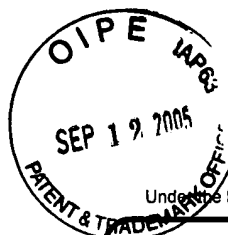

Ralph C. Francis
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Dated: February 27, 2004
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I hereby certify that this document is being deposited with the United States Postal Service on this date 2-27-04
in an envelope as "Express Mail Post Office to Addressee" Mailing Label Number EL99438683245 addressed to
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PETITION FEE
Under 37 CFR 1.17(f), (g) & (h)
TRANSMITTAL
(Fees are subject to annual revision)

Send completed form to: Commissioner for Patents
P.O. Box 1450, Alexandria, VA 22313-1450

Application Number	10/789,105
Filing Date	February 27, 2004
First Named Inventor	Claire Roberts
Art Unit	1649
Examiner Name	Borgeest, Christina
Attorney Docket Number	LP-02-019

Enclosed is a petition filed under 37 CFR 1.182 that requires a processing fee (37 CFR 1.17(f), (g), or (h)). Payment of \$ 400.00 is enclosed.

This form should be included with the above-mentioned petition and faxed or mailed to the Office using the appropriate Mail Stop (e.g., Mail Stop Petition), if applicable. For transmittal of processing fees under 37 CFR 1.17(i), see form PTO/SB/17i.

Payment of Fees (small entity amounts are NOT available for the petition fees)

☒ The Commissioner is hereby authorized to charge the following fees to Deposit Account No. 06-1838 :

☐ petition fee under 37 CFR 1.17(f), (g) or (h) ☒ any deficiency of fees and credit of any overpayments

Enclose a duplicative copy of this form for fee processing.

☒ Check in the amount of \$ 400.00 is enclosed.

☐ Payment by credit card (Form PTO-2038 or equivalent enclosed). Do not provide credit card information on this form.

Petition Fees under 37 CFR 1.17(f): Fee \$400 Fee Code 1462

For petitions filed under:

- § 1.53(e) - to accord a filing date.
- § 1.67(a) - to accord a filing date.
- § 1.182 - for decision on a question not specifically provided for.
- § 1.183 - to suspend the rules.
- § 1.378(e) - for reconsideration of decision on petition refusing to accept delayed payment of maintenance fee in an expired patent.
- § 1.741(b) - to accord a filing date to an application under § 1.740 for extension of a patent term.

Petition Fees under 37 CFR 1.17(g): Fee \$200 Fee Code 1463

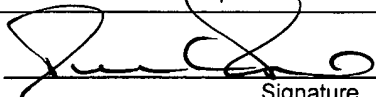
For petitions filed under:

- § 1.12 - for access to an assignment record.
- § 1.14 - for access to an application.
- § 1.47 - for filing by other than all the inventors or a person not the inventor.
- § 1.59 - for expungement of information.
- § 1.103(a) - to suspend action in an application.
- § 1.136(b) - for review of a request for extension of time when the provisions of section 1.136(a) are not available.
- § 1.295 - for review of refusal to publish a statutory invention registration.
- § 1.296 - to withdraw a request for publication of a statutory invention registration filed on or after the date the notice of intent to publish issued.
- § 1.377 - for review of decision refusing to accept and record payment of a maintenance fee filed prior to expiration of a patent.
- § 1.550(c) - for patent owner requests for extension of time in ex parte reexamination proceedings.
- § 1.956 - for patent owner requests for extension of time in inter partes reexamination proceedings.
- § 5.12 - for expedited handling of a foreign filing license.
- § 5.15 - for changing the scope of a license.
- § 5.25 - for retroactive license.

Petition Fees under 37 CFR 1.17(h): Fee \$130 Fee Code 1464

For petitions filed under:

- § 1.19(g) - to request documents in a form other than that provided in this part.
- § 1.84 - for accepting color drawings or photographs.
- § 1.91 - for entry of a model or exhibit.
- § 1.102(d) - to make an application special.
- § 1.138(c) - to expressly abandon an application to avoid publication.
- § 1.313 - to withdraw an application from issue.
- § 1.314 - to defer issuance of a patent.


Signature
Ralph C. Francis
Typed or printed name

9-8-05
Date
38,884
Registration No., if applicable

This collection of information is required by 37 CFR 1.17. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 5 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.